

1848.			R.A.			N.P.D.			1848.			R.A.			N.P.D.		
	h	m	s	°	'	"				h	m	s	°	'	"		
Nov. 16	22	8	39.71	102	9	25.2			Nov. 24	22	8	50.12	101	8	21.4		
17			40.55			19.8			25			52.02			8	10.1	
18			41.52			13.6			26			54.04			7	58.2	
19			42.63			6.7			27			56.20			45.5		
20			43.86			8	59.1		28	8		58.49			32.1		
21			45.23			50.8			29	9		0.90			18.0		
22			46.73			41.7			30	22	9	3.45	102	7	3.1		
23	22	8	48.36	102	8	31.9											

Horizontal Parallax.

July 1, 0".29; Sept. 1, 0".30; Nov. 1, 0".29.

METIS.

Observations.

MARKREE. Meridian Circle. (E. J. Cooper, Esq. & Mr. Graham.)

Greenwich M.T.		R.A.			Decl.			Obsr.	Obsn.—Ephem.
1848.		h	m	s	°	'	"		
April 26	5.47714	14	55	29.94	—12	31	37.9	A.G.	—0.14 +0.5
May	5.516892	46	28	56	12	7	37.8	,,	—0.11 +0.5
	9.503206	42	29	15	11	57	40.7	,,	0.00 —0.1
	10.499796	41	30	31	55	19	6	,,	+0.12 —1.4
	12.492931	39	33	80	50	43	0	,,	—0.01 +0.5
	13.489599	38	36	48	48	31	5	,,	—0.04 0.0
	16.479386	35	48	93	42	21	7	,,	+0.06 —0.9
	19.469431	33	8	59	36	51	7	,,	—0.11 —0.7
	22.459488	30	36	86	32	8	0	,,	—0.44 —0.6
	26.446062	27	30	60.2	27	10	5	E.J.C.	—0.51 —2.1
	29.436763	25	23	90	24	30	2	,,	—0.66 —1.2
June	2.424054	14	22	54.15	—11	22	28.2	,,	—0.91 +1.9
May 5.	Very faint. Did not appear larger than a 10th mag. star.								
9.	Very faint.								
10.	Excessively faint.								
13.	Do.								
16.	Very difficult. Near the moon. Got only three wires. Corrected an error of 2 ^s in the third wire.								
19.	Well shewn, and well taken.								
22.	Faint.								
26.	Seen with extreme difficulty. Got but two wires. The second of these seems to have been an illusion, and was rejected.								
29.	Extremely faint. Got the whole seven wires; but as the centre wire was marked "very doubtful" in the observing book, and differs 1 ^s from the mean, it was omitted in the reduction.								
June 2.	Extremely faint.								

With the Equatoreal, Square-bar Micrometer.

Greenwich M.T. 1848.	R.A. h m s	Decl. ° ' "	Obsr.	Obs ⁿ . — Ephem ^a . R.A. Decl.
April 26·472888	14 55 34·68	—12 31 51·1	A.G.	+0·08 — 0·6
26·596244	27·20	31·7	,,	—0·06 — 1·2
28·441448	53 37·60	26 36·3	,,	+0·25 — 6·5
29·451017	52 36·88	23 54·7	,,	+0·24 — 9·0
May 3·407148	48 36·98	13 12·6	,,	+0·10 — 3·5
5·440066	46 33·40	12 7 52·0	,,	—0·01 — 1·8
12·451285	39 36·53	11 50 57·6	,,	+0·26 — 8·5
13·440015	38 39·39	48 41·7	,,	—0·01 — 3·6
*18·448766	34 2·17	38 38·1	,,	—0·33 + 0·4
*19·436960	33 10·46	36 52·8	,,	+0·03 + 1·5
25·499828	28 13·02	27 58·4	,,	—0·48 + 12·4
29·495979	25 21·62	24 33·0	,,	—0·49 — 6·6
29·504334	21·55	38·9	E.J.C.	—0·21 — 12·9
June 2·467104	22 53·22	22 44·6	,,	—0·30 — 15·6
3·461207	22 19·29	22 29·7	,,	—0·62 — 13·1
5·479031	21 15·29	22 26·0	,,	—0·91 — 14·9
5·489616	15·16	25·0	A.G.	—0·72 — 13·9
15·516338	17 31·87	29 23·1	,,	—1·45 — 10·2
19·522799	16 46·97	35 41·4	E.J.C.	—1·47 — 19·9
20·458465	16 39·91	37 21·6	,,	—1·68 — 17·8
28·469008	14 16 35·27	—11 55 38·5	,,	—2·14 + 1·5

Stars of Comparison and Notes.

1848.
 April 26. Bessel xiv. 1066, H. C. 27376. Planet 10th mag.
 28. — — 1031, Interrupted by clouds.
 29. — — 1031.
 May 3. — — 956, H. C. 27247. I used for Lalande's R.A. 47^s·38, instead of what is given in the British Catalogue. A mistake of 2^s·5 which occurred in the reduction, as formerly published, is here corrected.—See Astron. Society's *Notices*, p. 149. The planet was faint when we commenced, twilight being too strong. I fancied the planet to-night 9½ magnitude. Interrupted by clouds.
5. — — 846, 956, H. C. 27211.
 12. — — 697, 735. I was struck with a faint point a little below *Metis*, about the same R.A.
 13. — — 697, 735. Strong moonlight and flying clouds made the observation very difficult.
 18. — — 622, 625. The planet appeared to me quite as bright as the former of these two stars, which Bessel makes 9th magnitude.
 19. — — 622, 625. The latter of these two stars is 4848 of the B.A. Catal., where there is decidedly an error of 4^s in the R.A. A subsequent observation with the meridian circle, on May 25th, gives for the mean place 1848·0, 14^h 33^m 50^s·53, 101° 34' 58"·75: thence the correction of the catalogue would be —3^s·95 + 0"·78. Adopting this place of 625, we obtain for the planet,
- | | | |
|--------|---|----------------|
| May 18 | 14 ^h 34 ^m 28 ^s ·32 | —11° 38' 41"·7 |
| 19 | 33 10·61 | 36 56·3 |

1848.
 May 25. B.A.C. 4828. Having been apprehensive of an error in the place of this star, I observed it thrice with the meridian circle, and adopted the place thus obtained. There is very little difference, however.
 B. A. C. gives $14^h 28^m 13^s.20 - 11^\circ 27' 56''.6$
 Rümker 12.91 58.8
 Markree obs. (as above) 13.02 58.4
29. Bessel xiv. 424. H. C. 26484. Five comparisons each observer.
 June 2. — — — Planet faint. Milky atmosphere.
 5. — — — Five comparisons each observer. Planet very fairly shewn.
 15. — — 259. H. C. 26265. The planet was so excessively faint in the strong moonlight, that no dependence can be placed in the observation. Took seven comparisons. There is a typographical error in Weisse, xiv, 296, the declination, should be $-10^\circ 11' 0''.0$ instead of $-11^\circ 11' 0''.0$.
 19. — — 259. Nine comparisons.
 20. — — 259. Satisfactory observation, though planet rather faint.
 28. — — 278. Only two comparisons, and these very uncertain.

There have always been ten comparisons made in each observation, unless when the contrary is expressly mentioned.

CAMBRIDGE. On the Meridian. (Prof. Challis.)

	Greenwich M.T.	R.A.	No. of Wires.	N.P.D.
1848.	^h ^m ^s	^h ^m ^s		[°] ['] ["]
April 30	12 14 55.6	14 51 32.35	5	102 20 46.6
May 1	9 59.8	50 32.36	7	18 2.5
2	5 3.2	49 31.51	3	15 25.3
3	12 0 6.8	.....	...	12 47.1
4	11 55 10.6	47 30.40	7	10 10.4
5	50 15.0	46 30.50	5	7 32.6
6	45 18.6	45 29.80	4	5 2.8
7	40 22.7	44 29.72	7	102 2 31.4
8	35 27.0	43 29.76	6	101 59 55.2
9	30 31.9	42 30.38	6	57 34.9
10	25 37.2	41 31.40	5	55 16.4
11	20 43.0	.....	...	52 59.7
12	15 49.2	.....	...	50 40.1
13	10 56.1	38 37.56	7	48 23.7
15	11 1 11.5	.....	...	44 3.8
18	10 46 41.3	.....	...	38 28.9
22	27 34.6	.....	...	32 7.8
23	22 50.5	29 49.60	6	30 25.4
27	10 4 5.3	26 47.59	6	26 1.7
30	9 50 15.5	24 45.21	4	.....
31	45 41.7	24 7.23	5	101 23 12.1
June 5	23 14.3	21 18.91	3	.....
6	9 18 47.6	14 20 48.00	3	.....

With the Northumberland Equatoreal.

1848.	Greenwich M.T.			R.A.			N.P.D.			No. of Comp.	Refer. Star.
	h	m	s	h	m	s	°	'	"		
April 30	11	5	31.2	14	51	35.28	102	20	52.4	12	<i>a</i>
May 1	11	23	9.7	50	33	87	18	10	3	7	<i>b</i>
2	12	42	39.1	49	29	76	15	25	4	6	<i>a</i>
3	11	31	57.5	48	32	11	12	52	8	6	<i>a</i>
4	12	49	14.6	47	28	35	10	8	4	6	<i>b</i>
6	13	14	1.9	45	26	00	102	4	46.6	6	<i>c</i>
12	12	17	40.6	39	32	80	101	50	37.6	6	<i>d</i>
15	12	13	31.2	36	42	50	44	15	3	6	<i>d</i>
16	12	4	22.1	33	47	46	42	12	2	6	<i>e</i>
24	13	13	2.3	28	56	96	29	13	5	7	<i>f</i>
30	11	17	5.6	24	42	79	23	40	5	6	<i>g</i>
June 5	10	53	44.8	21	15	75	22	8	0	6	<i>h</i>
6	10	39	4.8	14	20	46.84	101	22	14.1	5	<i>h</i>

“The above observations and those on the meridian are all corrected for parallax by means of Mr. Luther’s Ephemeris in the *Astronomische Nachrichten*, No. 640. The following are the adopted mean places of the reference stars, determined by meridian observations:—

Star.			Mean R.A. 1848,0.			Mean N.P.D. 1848,0.		
			h	m	s	°	'	"
(a)	Bessel xiv.	956	14	50	24.13	102	9	17.8
(b)	—	931	49	19	39	102	1	19.3
(c)	—	896	47	28	50	102	35	9.6
(d)	—	697	37	29	67	101	42	31.0
(e)	B.A.C.	4848	33	47	95	101	34	52.6
(f)	Bessel xiv.	523	28	30	93	100	58	38.9
(g)	—	498	27	11	49	101	4	37.3
(h)	—	424	14	23	6.94	101	11	26.1

The seconds of the R.A. of the star (e) in the British Association Catalogue should be 54.56 instead of 58.56.

HAMBURG. Merid. Circle & Transit. (MM. C. & G. Rümker.)

1848.	Hamburg M.T.			Mer. Circle.			R.A.	Transit.	N.P.D.		
	h	m	s	h	m	s	s	°	'	"	
May 5	11	50	46.1	14	46	31.64	31.39	102	7	47.5	
6		45	50.1		45	31.35	31.35		5	16.9	
7		40	54.2		44	31.22	31.06		2	45.7	
8		35	58.9		43	31.64		102	0	18.9	
9		31	3.5		42	32.03	31.89	101	57	52.4	
10		26	9.1		41	33.29	33.60		55	29.2	
11		21	14.8		40	34.77			53	6.9	
12		16	21.3		39	37.03			50	55.0	
13	11	11	27.7	14	38	39.15	39.31	101	48	39.6	

1848.	Hamburg M.T.	R.A. Mer. Circle.	N.P.D.
	^h ^m ^s	^h ^m ^s	[°] ['] ["]
May 14	11 6 35.2	14 37 42.46	101 46 26.6
21	10 32 51.1	31 28 9.0	33 41.4
22	28 5.0	30 39 36	32 13.0
23	23 21.7	29 50 86	30 54.0
24	18 39.0	29 3.94	29 32.6
26	9 16.4	27 32.75	27 5.7
27	10 4 36.9	26 49 18	26 15.2
30	9 50 46.7	24 46 33	23 51.7
June 1	9 41 40.0	14 23 31.31	101 22 46.5

With the Equatoreal.

June 1	10 52 4.4	14 23 29.66	101 22 46.0
3	11 13 37.9	14 22 20.15	101 22 17.6

Elements.

By Dr. Brunnow of the Bilk Observatory.

M	.....	147 20 27.9.	1848, May 12. Berlin M.T.
π	.....	68 34 21.5	Mean Equinox.
δ	.....	66 35 47.8	
i	.....	6 10 7.6	1848, Jan. 1.
ϕ	.....	10 6 49.5	
μ	.....	961'' 2567	

From Observations of April 26, South Villa.

„ May 5, Hamburg.

„ May 11, Bilk.

By Dr. B. A. Gould.

M	.....	142 51 34.9.	1848, May 0. Berlin M.T.
π	.....	72 12 3.7	
δ	.....	68 35 3.0	
i	.....	5 33 55.9	
ϕ	.....	7 3 32.9	
μ	.....	962'' 9598	Period 1345 ^d .85

Ephemeris at Greenwich Mean Noon. By Mr. Graham.

1848.	R.A.	N.P.D.	Log. Δ
	^h ^m ^s	[°] ['] ["]	
July 11	14 19 39.72	102 38 8.6	0.33934
12	20 3.51	42 9.8	34190
13	20 28.58	46 16.0	34446
14	20 54.93	50 27.1	34702
15	21 22.53	54 43.1	34957
16	14 21 51.37	102 59 3.7	0.35211

1848.	R.A.			N.P.D.			Log. Δ
	h	m	s	°	'	"	
July 17	14	22	21.43	103	3	29.0	0.35464
18		22	52.70		7	58.8	35717
19		23	25.17		12	33.0	35969
20		23	58.82		17	11.5	36220
21		24	33.63		21	54.1	36471
22		25	9.60		26	40.8	36720
23		25	46.72		31	31.6	36969
24		26	24.96		36	26.3	37216
25		27	4.32		41	24.9	37463
26		27	44.78		46	27.2	37708
27		28	26.33		51	33.1	37953
28		29	8.97	103	56	42.6	38196
29		29	52.68	104	1	55.5	38438
30		30	37.44		7	11.7	38679
31		31	23.24		12	31.2	38919
August 1		32	10.07		17	53.9	39157
2		32	57.91		23	19.6	39394
3		33	46.76		28	48.2	39630
4		34	36.59		34	19.7	39864
5		35	27.39		39	53.9	40097
6		36	19.15		43	30.8	40329
7		37	11.87		51	10.1	40559
8	14	38	5.52	104	56	51.9	0.40788

ENCKE'S COMET. By Mr. Hind.

“ An ephemeris for the reappearance of Encke's Comet during the ensuing autumn has been published in the *Astronomische Nachrichten* by Prof. Encke.

“ At the last return of the comet to perihelion, in 1842, only four observations were obtained ; two at Rome by Prof. De Vico, on July 9 and 14 ; one at Philadelphia by Mr. Walker, on July 4 ; and one at Washington, on July 14, by Prof. Coffin. Encke finds for the mean error of the ephemeris in that year,

July 10^d.6 R.A. — 37^h.5 δ + 7^m.0

“ The elements for 1848, given by Encke, are those resulting from his last discussion in Nos. 488 and 489 of the *Astronomische Nachrichten*, brought up to the next perihelion passage by the application of planetary perturbations and the effect of a resisting medium. The fundamental elements depend on all the observations made in the years 1818, 1825, 1828, 1835, and 1838, the mass of the planet *Mercury* having been corrected by the observations of 1838. In 1835, on the 23d of August, the comet approached that planet within 0.12 of the earth's mean distance ; but it appears that a much closer appulse will take place about midnight on the 22d

B